

REMARKS/ARGUMENTS

The examiner has rejected claims 1-7, 13-19 and 21-22 under 35 U.S.C. § 102(b) as being unpatentable over Harada et al. In addition, the examiner has rejected claims 8 and 20 under 35 U.S.C. § 103(a) as being unpatentable over Harada et al. in view of Nakajima et al.

In rejecting the claims the examiner urges that Harada et al. disclose each and every feature of claims 1-7, 13-19 and 21-22. In addition the examiner urges that claims 8 and 20 are obvious over the combined teachings of Harada et al. in view of Nakajima et al. In the obviousness rejection the examiner acknowledges that Harada et al. do not disclose that the boat is made of quartz. The examiner turns to the teaching of Nakajima for this aspect of the invention. In this regard the examiner urges that Nakajima discloses a quartz boat inside the reaction chamber and thus the examiner concludes that it would be obvious for one having ordinary skill in the art at the time of the invention to employ the quartz boat of Nakajima et al. in the apparatus of Harada et al. in order to arrive at applicant's invention.

In response to these rejections applicant has amended the claims to more particularly define the invention and distinguish over the art of record.

Before discussing the above rejections, applicant first wishes to thank the examiner for the courtesy extended to the below signed attorney during the interview on October 21, 2003. The following remarks constitute a statement of the substance of the interview as well as additional remarks in support of the patentability of the claimed invention.

During the interview the below signed attorney explained the critical features of the invention which are believed to distinguish the invention over the cited art of record. In this regard it was emphasized that the present invention permits the process substrates and dummy wafers to be coated with the film of semiconductor material in the reaction chamber and also permits the dummy wafers to be periodically cleaned in the same apparatus so that the process wafers can be recycled in the apparatus without having to remove them therefrom. Consequently, according to applicant's invention a separate cleaning apparatus is no longer necessary and thus the entire procedure can be accomplished with greater efficiency and less cost.

It was particularly emphasized during the interview that the present invention relates to an apparatus and method which provides for the periodic introduction of process substrates and dummy wafers into the reaction chamber whereby the process gas which is introduced into the chamber forms a coating of semiconductor material (i.e., a film) on the process substrates and the dummy wafers. The apparatus includes a wafer carrier which transfers the process substrates and the dummy wafers into the quartz boat which is then introduced into the reaction chamber for processing. The dummy wafers are introduced into the wafer carrier from a stocker portion of the apparatus and the process substrates are introduced into the wafer carrier from a cassette portion of the apparatus. The dummy wafers become coated with the semiconductor material each time they are introduced into the reaction chamber wherein conditions are maintained to coat the dummy wafers and process substrates with the film of semiconductor material. The dummy wafers are reused until the coating on each dummy wafer becomes too thick, at which point the dummy wafers have to be cleaned. Unlike the prior art, the dummy wafers do not have to be removed from the apparatus for cleaning. Instead, according to applicant's invention, the

dummy wafers are periodically loaded onto the quartz boat for introduction into the reaction chamber for a cleaning cycle. During the cleaning cycle a cleaning gas is introduced into the reaction chamber containing the dummy wafers loaded onto quartz boat. Thus, the invention provides for both the coating of semiconductor material onto the process substrates as well as the periodic cleaning of the dummy wafers in the same apparatus.

In order to accomplish this objective it is necessary to provide a cleaning gas line as well as a process gas line. The examiner urges in the rejection under 35 U.S.C. § 102(b) that it would be obvious to include a gas line in the device disclosed by Harada et al. As noted during the interview by the below signed attorney, a conclusion of obviousness regarding the gas line of the prior art has no relevance to an anticipation rejection under 35 U.S.C. § 102(b). However, the examiner noted during the interview that his conclusions regard the obviousness of including a gas line in the CVD structure of Harada et al. was intended to mean that the gas line of a CVD structure would inherently be present.

Although Harada et al. may inherently include a gas line in their apparatus, Harada et al. fail to disclose or suggest that the apparatus can be used to both coat the substrates with the semiconductor film and also periodically clean the dummy wafers in the same apparatus. Thus, while there may be motivation for Harada et al. to provide a gas line for introducing process gas into the reaction chamber for coating the process substrates with the semiconductor film, this reference provides absolutely no motivation for the further inclusion of a **gas line which is coupled to a source of cleaning gas** as presently required in applicant independent claims. Thus, Harada et al. fail to disclose all of the elements recited in applicant's claims and thus the rejection under 35 U.S.C. § 102(b) must be withdrawn. Similarly, it would not be obvious to include a gas line coupled to a

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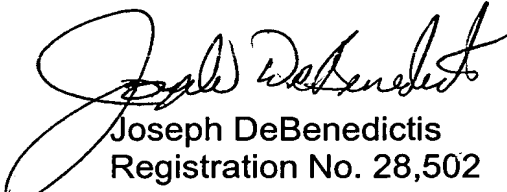
source of cleaning gas in the device disclosed by Harada et al. because neither Harada nor any of the cited references disclose or suggest the introduction of a cleaning gas into the same reaction chamber which is used to coat the process substrates with a thin film of semiconductor material.

In view of the above, it is clear that the presently amended claims are fully distinguished over the art of record. Furthermore, applicant submits that the above amendment to the claims does not raise a new issue since the added limitations are conceptually covered by the scope of the previously presented claims and furthermore because the limitations are only for particularly pointing out the subject matter recited in the claims.

In view of the above arguments and further amendment to the claims, applicant respectfully requests reconsideration and allowance of all the claims which are currently pending in the application.

Respectfully submitted,

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